

A MUDDIFICATION OF THE BELGIAN COASTAL WATERS? SHIFTS IN THE DISTRIBUTION OF 12 NUMERICALLY ABUNDANT BIVALVES OVER THE TWENTIETH CENTURY

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Knowledge on the macrobenthic communities of the Belgian part of the North Sea has been increasing since the early 1970s. In the frame of the EU 'Water' and 'Marine Strategy' Framework Directives, ecosystem health indices are being developed and it is now necessary to define 'reference conditions' against which human-induced impacts can be evaluated. It is however acknowledged that most impacts are much older than the 1970s and it can be questioned whether knowledge acquired since then can provide accurate information on the baseline situation. The historic collection of G. Gilson, held at RBINS, Department of Invertebrates, was investigated for the period 1899-1908 and compared to a data-set of the period 1994-2008 ('Macrodat-ILVO databank'; Degraer *et al.*, 2009) for 12 numerically abundant coastal bivalves. Despite restrictions resulting from different data distributions and sampling gears, our analysis evidences important distribution shifts, with a regression of clean sand species and a clear expansion of mud-tolerant species. The results are in line with an increased influence of suspended particulate matter in the sediment, which could be linked to maritime access works (Fettweis *et al.*, 2009), bottom trawling and/or the eutrophication of the Southern Bight of the North Sea. They show the importance of historic data gathering and processing to decide upon management targets and to tentatively predict the probable effects of action plans.

References

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